

# PRODUCT INFORMATION



## SARS-CoV-2 Spike Glycoprotein S1 Subunit

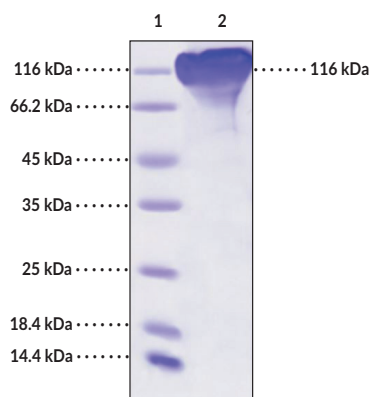
Item No. 31814

### Overview and Properties

<b>Synonyms:</b>	COVID-19 Surface Glycoprotein S1 Subunit, 2019-nCoV Surface Glycoprotein S1 Subunit, SARS-CoV-2 Surface Glycoprotein S1 Subunit, Severe Acute Respiratory Syndrome Coronavirus 2 Spike Glycoprotein S1 Subunit
<b>Source:</b>	Active recombinant C-terminal mouse IgG1 Fc-tagged SARS-CoV-2 spike glycoprotein S1 subunit expressed in HEK293 cells
<b>Amino Acids:</b>	16-685
<b>Uniprot No.:</b>	PODTC2
<b>Molecular Weight:</b>	101.4 kDa
<b>Storage:</b>	-80°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Purity:</b>	≥90% estimated by SDS-PAGE
<b>Supplied in:</b>	Lyophilized from sterile PBS, pH 7.4
<b>Endotoxin Testing:</b>	<1.0 EU/μg, determined by the LAL endotoxin assay
<b>Protein Concentration:</b>	<i>batch specific</i> mg/ml
<b>Bioactivity:</b>	See figures for details

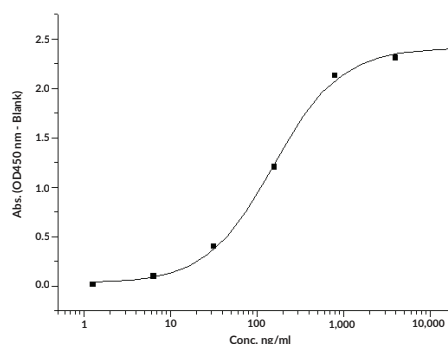
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Images



Lane 1: MW Markers  
Lane 2: SARS-CoV-2 Spike Glycoprotein S1 Subunit

**SDS-PAGE Analysis of SARS-CoV-2 Spike Glycoprotein S1 Subunit.**  
This protein has a calculated molecular weight of 101.4 kDa. It has an apparent molecular weight of approximately 116 kDa by SDS-PAGE under reducing conditions due to glycosylation.



**SARS-CoV-2 Spike Glycoprotein S1 Subunit Activity in a Functional ELISA.** Immobilized human ACE2 protein (His-tag) at 2 μg/ml (100 μl/well) can bind SARS-CoV-2 Surface Glycoprotein S1 Subunit. The EC<sub>50</sub> value for this is typically 90-240 ng/ml.

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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## Description

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Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is an enveloped positive-stranded RNA virus, a member of the *Betacoronavirus* genus, and the causative agent of COVID-19.<sup>1-5</sup> The SARS-CoV-2 spike glycoprotein, also known as the surface glycoprotein, is located on the outer envelope of the virion.<sup>1</sup> It is composed of an S1 and S2 subunit divided by a furin S-cleavage site not found in other SARS-CoVs.<sup>6,7</sup> The S1 subunit contains the receptor-binding domain (RBD), which binds to the carboxypeptidase angiotensin-converting enzyme 2 (ACE2), and the S1 and S2 subunits are cleaved by the protease TMPRSS2 to facilitate viral fusion with the host cell membrane.<sup>8-10</sup> The SARS-CoV-2 spike glycoprotein S1 subunit induces inflammatory gene expression in the frontal cortex, hippocampus, and hypothalamus, as well as activates toll-like receptor 2 (TLR2) and TLR4 signaling and increases social avoidance in the juvenile social exploration test in rats.<sup>11</sup> Cayman's SARS-CoV-2 Spike Glycoprotein S1 Subunit can be used for ELISA. This protein is a disulfide-linked homodimer. The reduced monomer, composed of the SARS-CoV-2 spike glycoprotein S1 subunit (amino acids 16-685) fused to mouse IgG1 Fc at its C-terminus, consists of 904 amino acids and has a calculated molecular weight of 101.4 kDa. As a result of glycosylation, the monomer migrates at approximately 116 kDa by SDS-PAGE under reducing conditions.

## References

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